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USMC Active and Reserve Force Structure and Mix Study

Volume II: History and Policy

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H. Dwight Lyons, Jr.
John D. Goetke

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Volume II: History and and Policy

H. Dwight Lyons, Jr.
John D. Goetke

Office of the President

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INTRODUCTION

BACKGROUND

The National Defense Authorization Act for FYs 1992 and 1993 [1] requires the Secretary of Defense to submit an "assessment of a wide range of alternatives relating to the structure and mix of active and reserve forces appropriate for carrying out assigned missions in the mid- to late-1990s" to the Senate and House Armed Services Committees. The act further mandates that the assessment shall consist of two parts. The first part is to be conducted by a "federally funded research and development center that is independent of the military departments." The second part of the study is to be conducted by the Secretary of Defense and Chairman of the Joint Chiefs of Staff.

The National Defense Research Institute of RAND Corporation is the prime contractor for the first part of the study. Because of its knowledge of the Navy and Marine Corps, CNA was contracted to perform the required assessment of Navy and Marine forces. CNA will provide study results to both the Assistant Secretary of Defense for Force Management and Personnel and RAND, and the results will be incorporated in the final RAND report submitted to the Office of the Secretary of Defense (OSD).

The CNA study team comprises two independent teams--one analyzing the Navy active/reserve structure and mix and the second analyzing the Marine Corps. Each independent team will assess the following:

- Existing policies and practices for implementing the Total Force Policy.
- The effectiveness of Total Force Policy during the Persian Gulf Conflict.
- A range of possible mixes of active and reserve forces. For Selected Reserve forces, this assessment must include, as a minimum: maintaining the levels provided for in the Authorization Act for FY 1993, and levels significantly higher and lower. This assessment must also analyze the ability of alternatives to prosecute a range of military operations, focusing on the time required to prepare forces for combat.
- The costs associated with alternative active and reserve force structures and mixes.

CNA's study supports the general study plan designed by RAND. Although CNA provided an independent study, the tasks closely follow the RAND design. Figure 1 shows the relationship between CNA and RAND tasks. CNA tasks support RAND tasks in all but one case: sustainability of reserves. Because RAND was better able to model the flow of active and reserve forces, it performed this task and evaluated the sustainability of reserves for all services.

ORGANIZATION OF THE MARINE CORPS TEAM REPORT

The Marine Corps Team report consists of five volumes. Volume I summarizes the other volumes; volume II addresses the historical use of reserve forces (including the Persian Gulf conflict assessment) and the Marine Corps interpretation of the Total Force Policy; volume III develops a wide range of possible alternatives and analyzes the requirements for preparing reserve forces for combat; volume IV contains the detailed analysis of alternative structures and mixes; and volume V contains the classified parts of the report. Figure 2 shows the relationship between required study tasks and report volumes.

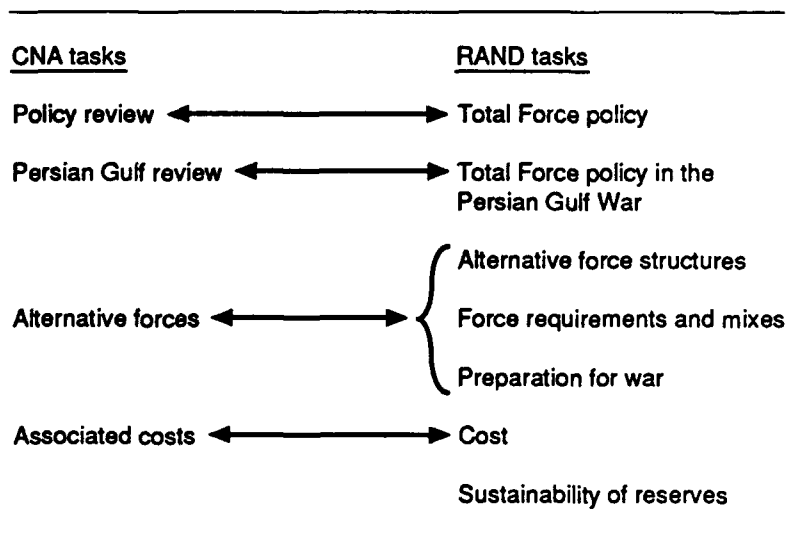


Figure 1. Relationship of tasks

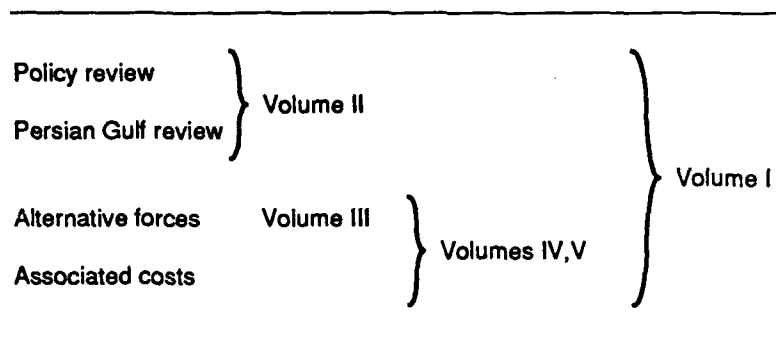


Figure 2. Marine Corps report volumes matched to tasks

HISTORICAL USE OF MARINE CORPS RESERVE

The Marine Corps Reserve was created with the passage of Public Law 64-241 on 29 August 1916 [2]. When Congress declared war on the Imperial German government in April 1917, the Marine Corps Reserve consisted of a grand total of 3 officers and 32 enlisted men. Since World War I, the Marine Corps Reserve has fought in World War II, the Korean War, the Vietnam War (to a limited extent; reserves were not mobilized), and the recent Persian Gulf conflict.

Reserve contributions to the Korean War and Persian Gulf War provide two interesting and considerably different examples of significant reserve employment in regional conflict. This section discusses how active and reserve forces were used in Korea, significant events that shaped the Total Force between 1950 and 1990, reserve contributions in Operations Desert Shield and Storm, and applicable lessons for future forces.

KOREAN WAR

A massive demobilization of military forces occurred after the allied victory in World War II. Table 1 shows Marine Corps active and reserve endstrength between 1945 and 1950 [3]. Within a year after V-J Day, the Marine Corps had been reduced to about one-third of its wartime strength. At the same time, a strong Marine Corps Reserve was being established. By the time the North Koreans invaded on 25 June 1950, the Marine Corps' active strength had been reduced to slightly more than 74,000, but reserve strength was almost 129,000.

Table 1. Marine Corps strength

Year	Active duty	Reserves not on active duty	Total
1945	469,925	--	--
1946	155,679	22,807	178,732
1947	93,053	45,536	138,589
1948	84,988	111,122	196,110
1949	85,965	123,817	209,782
1950	74,279	128,962	203,118

On 10 July, when General MacArthur requested a full Marine division and supporting aviation units, the active force alone could not field one. Table 2 shows the breakdown of active forces. There were 27,703 Marines in the Fleet Marine Forces (FMF). Within the Marine divisions (MarDivs) there were a total of 16,752 Marines (8,973 in 2d MarDiv,

7,779 in 1st MarDiv), far short of the 22,000 structure of a wartime MarDiv. Each of the divisions had but one infantry regiment; some infantry battalions had only two companies, and some rifle companies had only two platoons [4]. The FMF was a "hollow" force.

Table 2. Composition of active Marine forces, Jun 1950

Category	Strength
Fleet Marine Forces	27,703
Supporting establishment	24,552 ^a
Special/other assignment	3,871
Security detachments	11,087
Afloat	1,574
Non-available	5,492 ^b

-
- a. Major headquarters, bases and stations, training organizations, recruiting, etc.
 - b. Due to hospitalization, confinement in military prison, or in transit. This figure corresponds to today's prisoners, patients, transients, and trainees (P2T2); basically the "overhead" component.
-

The First Provisional Marine Brigade was the first Marine combat organization to deploy to Korea. The brigade was formed and deployed during the first two weeks of July. Once it had departed, 1st MarDiv was left with a total of 3,459 men. Faced with the immediate need for more forces in Korea and the lack of active forces in all the services, President Truman authorized the callup of reservists on 19 July.

Organized Reserve

In contrast to the small active force, the Marine Corps Reserve had been built up to (at the time) an all-time high. Of the 128,962 reservists, 87,778 were in the Volunteer Reserve (similar to today's Individual Ready Reserve), 1,316 were in the Fleet Marine Reserve (similar to today's Fleet Marine Corps Reserve), and 39,868 were in the Organized Reserve (similar to today's Selected Marine Corps Reserve) [4]. The Organized Reserve was designed to flesh out the two anemic active division/wing teams. It consisted primarily of battalion, company, and battery-sized ground units in the Organized Ground Reserve

and fighter and ground control intercept squadrons in the Organized Air Reserve. But perhaps the most important characteristic of the Marine Corps Reserve was that many reservists--98 percent of officers and 25 percent of enlisted--were World War II veterans [5].

The Marines' first reserve increment was 4,830 personnel called from the Organized Ground Reserve on 20 July. The mobilization proceeded rapidly--by 4 August, the entire Organized Ground Reserve had been mobilized, including the 13 Woman Reserve Platoons. On 23 July, the first units of the Organized Air Reserve, totaling 1,474 personnel, were called. Additional Air Reserve units were called on 3 August.

On 25 July, the Joint Chiefs of Staff (JCS) ordered the Marine Corps to build 1st MarDiv to wartime strength (less the already deployed brigade), and set 10-14 August as the period for the division's departure. The first reserve units reported to Camp Pendleton, California, on 31 July. The next day, reserve units began reporting to Camp Lejeune, North Carolina, other bases and stations, and security detachments to free Regular Marines for transfer to Camp Pendleton. Eventually, over 7,000 Regulars were transferred [5].

As reserves reported to Camp Pendleton, their units were disbanded so they could be used as fillers for the 1st MarDiv and First Marine Aircraft Wing (1st MAW). The division's imminent departure precluded any detailed analysis of training records or practical tests of reservists' readiness. Two categories were established: combat ready and non-combat ready. Combat ready included those who had been members of the Organized Reserve for at least two years plus attended a summer camp and 72 drills or two summer camps and 36 drills, and those who were veterans with more than 90 days service in the Marine Corps. Non-combat ready included everyone else. All reservists were interviewed, and anyone who believed he needed more training was removed from the combat-ready list [4].

About 90 percent of the over 33,000 Organized Reserves called showed up. Using the combat-ready/non-combat-ready system, about 50 percent of these reservists (including all the officers) were classified combat ready. Of this pool of about 16,000 combat-ready reservists, the 1st MarDiv initially received 2,891.

On 5 August, the Commandant warned reserve districts that about 60 percent of the Volunteer Reserve would be called. Ten days later, all male enlisted members in the ranks of Sergeant and below were ordered to active duty with a 15-day delay. On 18 August, reserve districts were notified that 2,650 company-grade officers with combat specialties, and certain staff noncommissioned officers (NCOs) would be ordered to active duty either by name or by military occupational specialty (MOS).

Meanwhile, on 17 August, the Commandant ordered the formation of another regimental combat team (RCT) for 1st MarDiv. This RCT, 7th Marines (Reinforced), was to be ready to embark by 1 September. About half of this RCT (1,809 of 3,755 personnel) was reservists (mostly from the Organized Reserve). 1st MarDiv units set sail for Korea between the middle of August and early September. By that time, the 1st MAF was composed of about one-fourth reservists, including two reserve fighter squadrons that were the only Organized Reserve units used intact during the Korean War.

On 15 September, less than three months after the North Korean invasion, the 1st MarDiv conducted its historic amphibious assault at Inchon. A week later, the 7th Marines, now about 30 percent reservists since the arrival of 3d Battalion, 6th Marines, from the Suez, landed at Inchon.

Volunteer Reserve

By 1 September, Volunteer Reserves began arriving at Camp Pendleton. Large groups of Volunteer Reserve officers and staff NCOs were called on 6 and 7 September, respectively. After that time, Volunteer Reserves were ordered to active duty primarily on an individual basis.¹

During October, over 21,000 Volunteer Reserves reported for duty. Non-combat-ready Organized Reservists and Volunteer Reserves received additional training and reached Korea during autumn of 1950 as replacements. By the end of 1950, most of 2d MarDiv was reservists (19,895), primarily Volunteer Reserves. By the end of 1950, 43,940 Volunteer Reserves had been called. Over 80 percent reported for duty. After 1950, the pace of reserve activations slowed; still, by May 1951, there were over 52,000 Volunteer Reserves on active duty.

Summary

To summarize the Marine Corps Reserve experience in the early stages of the Korean War:

- The active Marine Corps at the beginning of the war was a "hollow" force. Reserves had to be called for the Marines to be able to field a full division/wing team.

1. The one exception was an additional quota of staff NCOs activated on 8 February 1951 [4].

- The Organized Reserve was organized primarily as battalion-, company-, and squadron-sized units. Virtually the entire Organized Reserve was called up. With the exception of two fighter squadrons, units were disbanded and the personnel were used to fill Regular units or as replacements.
- Almost all Organized Reserve officers and many enlisted men were World War II veterans. About 3,000 of 16,000 combat-ready reservists were chosen for the earliest deployments.
- For early-deploying reservists, the time from activation to deployment was about one to one-and-a-half months. Much of this period was consumed in getting to the right place and in screening; little time was available for training.

For the first time in history, Marine reservists played a major role in a regional conflict. When called, they showed up, deployed early, were used in large numbers, and served with distinction. In the words of one historian, "... it was a war which saw the Marine Reserves of 1950-53 set a record that future Marine reservists will be hard-pressed to equal" [4].

SHAPING THE FORCE BETWEEN THE KOREAN AND PERSIAN GULF WARS

In a sense, *between the wars* is a misnomer for this section because the interservice battle over roles and missions, and consequently force structure, started before and continued throughout the Korean War. The seeds of the debate were sown as early as 1943, but the battle began in earnest at the end of World War II when President Truman pressed for unification of the armed services.

The Battle for Legislative Protection

The Marines feared that under the unification concept they would be absorbed by the Army and, at the very least, would lose their aviation units to the Air Force [6]. The Marines argued that the nation needed a Corps based on forces similar to those employed in World War II--that is, a division/wing structure. The Army questioned the idea that future ground operations would be part of a naval campaign and asserted that, if amphibious operations were necessary, they should be conducted by the Army and Air Force. The stage was set for the battle fought during Congressional hearings. The Marines, arguing that they were the nation's force in readiness, wanted their World War II missions written into law; their opponents wanted the Corps reduced to light infantry regiments without aviation.

After much political and bureaucratic maneuvering and commentary (e.g., [7,8]), the first stage of the battle ended in 1947 during the

hearings on the unification bill. The Marines successfully argued that Congress, not the Defense Department, was responsible for assigning service roles and missions, and convinced the House committee that those roles and missions should be included in the National Security Act. The 1947 Unification Act stated that the Marine Corps:

...shall include land combat and service forces and such aviation as may be organic therein. The primary mission of the Marine Corps shall be to provide fleet marine forces of combined arms, together with supporting air components, for service with the fleet in the seizure or defense of advanced naval bases and for the conduct of such land operations as may be essential to the prosecution of a naval campaign...and shall perform such other duties as the President may direct [9,10].

A battle was won, but the war was not over. Having roles and missions written into law is one thing; having the force structure to execute them is another. After World War II, Marine forces were steadily cut back to the point that the Fleet Marine Force (FMF) could not field a war-strength division/wing team at the beginning of the Korean War. One reason for this was that the Commandant of the Marine Corps was excluded from planning sessions in which the defense budgets were prepared. After 1947, Headquarters Marine Corps focused on legislation to make the Commandant a permanent member of the JCS. Although unsuccessful, the Marines were able to keep the issue alive until June 1950. Arguably, the Korean War averted the attempts to dismantle the FMF as a fighting force. As one historian put it, "little did Headquarters guess that the North Korean People's Army would save the FMF..." [5]

The most positive aspect of the post-World War II demobilization was the impetus it provided to expand the Reserve. As the active forces shrank, proponents began lobbying Headquarters to build a strong Marine Corps Reserve, asserting that it was the only way to fill out the two divisions and wings needed in the event of war. In 1946, the Division of Reserve was reactivated as a special staff section. Although training resources and opportunities for the Reserve were even more constrained than for the Regulars, almost all officer and many enlisted reservists were World War II veterans. The strategy worked: Marine reservists provided a vital contribution to the Korean War.

While the Korean War raged, the debate over Marine Corps force structure continued. The final legislative battle occurred during committee deliberations in the 82nd Congress. During the deliberations, five major concerns about a legislated Marine Corps structure were addressed directly [11 through 13]:

- The first of these concerns was that the strength of the Marine Corps should be tied to that of the Navy. This idea was rejected on the grounds that Marine Corps functions are not limited to helping the Navy. Pointing out numerous examples of "other than Naval" duties (including their role in the Korean War), the committee concluded that one of the most important functions of the Marines was additional duties "as the President may direct."
- The second question was whether the JCS or Congress should determine Marine Corps force structure. The committee members pointed out that the Constitution gave Congress the authority to provide for and support the military services." They interpreted this to mean that Congress should determine the size and composition of the armed forces.
- The third concern was that a large Marine Corps would duplicate the Army and Air Force. To answer this, the committee chose to focus not on the mix of weapons or similarities in organization of the services but on the purposes for which the forces were created. With that focus, the committee saw no duplication between a Marine Corps "force in readiness" designed to suppress or contain international disturbances and an Army and Air Force responsible for preparing forces to effectively prosecute war.
- The fourth issue was why the Marines needed legislative protection. The situation at the beginning of the Korean War was used to refute this question. The committee members pointed out that, despite the 1947 Unification Act's intent to make the Marine Corps the nation's force in readiness, the President, JCS, and Defense Department planned to reduce it to a "police force." They concluded that the structure of the Marine Corps needed to be established in law.
- The fifth concern dealt with Marine aviation, with Air Force proponents asserting that air power should be centrally controlled. Marines had long argued, and Congress agreed, that Marine Corps air power was primarily for close air support, and that a close working relationship between pilots and ground troops was necessary for this support to be effective.

The committee's report was approved by voice vote in the House and Senate on 20 June 1952. President Truman signed it on 28 June, and it was incorporated into Title 10 of the United States Code (10 USC 5063). The law specified an active structure of not less than three divisions and wings plus support forces.¹

A month later, Public Law 82-476 provided for a Reserve with trained units and qualified individuals to meet requirements in excess of regular forces [2]. Although Marine reservists were assigned to what was still called the Organized Reserve, this law formed the basis for the units and individual mobilization augmentees of today's SMCR. Public Law 84-305 in August 1955 increased the annual training requirements for the Ready Reserve and set up special enlistment programs in the Marine Corps Reserve. In December 1967, Public Law 90-168 established the SMCR. Due in no small part to legislation pertaining to both active and reserve components, the Marine Corps was able to build a total force that fought effectively in Kuwait in 1991.

Total Force Policy in the Marine Corps

Although legislation stipulates the structure of Marine Corps forces, it does not set policy for how they will be employed. That aspect is specified by the Total Force Policy, developed to fit the nation's responsibilities as a global power to fiscal and demographic realities [15]. The Total Force Policy was first articulated in 1970 by Secretary of Defense Laird, and formally adopted in 1973 by Secretary Schlesinger. Its objective is to maintain as small an active force as possible, integrating the capabilities and strengths of the active and reserve forces in a cost-effective manner. The policy has two basic tenets: (1) reserve forces are relied on as the primary source of augmentation for the active forces, and (2) all forces available, to include active, reserve, civilian, and allied, should be integrated to complete the mission at hand.

For the Total Force Policy to be effective, reserves must be mobilized in time to support military operations directed by the national command authority. Toward this end, several federal laws outline who may be mobilized and under what circumstances, and the defense establishment develops mobilization plans to provide guidance on how to mobilize reserve forces.

Federal law includes several emergency authorities that authorize the federal government to expand the nation's armed forces under different circumstances. These emergency authorities are based on

1. For a more extensive discussion of the legislative battles between 1945 and 1952, see [5]. For an "insider's" viewpoint, see [14].

United States Code and Public Law, Executive Orders, or federal regulations [16]. They include four types of mobilization: the Presidential selected reserve callup (PSRC), partial, full, and total. See table 3.

Table 3. Authority for involuntary reserve callup

Type of mobilization	Type of unit	Duration	Maximum numbers
PSRC	SMCR ^a	90 days + 90 days	200,000
Partial	SMCR, IRR ^b	24 months	1,000,000
Full	all	Duration + 6 months	Unlimited
Total	all	Duration + 6 months	Unlimited ^c

a. Selected Marine Corps Reserve.

b. Individual Ready Reserve.

c. Total mobilization allows growth beyond existing force structure.

Presidential Selected Reserve Callup

The secretary of a military department has the authority, under 10 USC 672b, to order any unit or individual under his or her jurisdiction to involuntary active duty for no more than 15 days a year. Units or members of the National Guard need state approval. The secretary also has the authority, under 10 USC 688, to recall military retirees with 20 years of active service. This authority can be used at any time for an unspecified period of time, but it is limited to not more than 15 general/flag officers from each service at any one time, except in time of war or national emergency.

The President has the authority, under 10 USC 673b, to order up to 200,000 Selected Reservists to involuntary active duty for not more than two successive 90-day periods, independent of a partial or full mobilization. He does not have to declare a national emergency. This authority is limited to the activation of Selected Reserve units or individual reservists (individual mobilization augmentees) to augment active forces for "operational missions." This specification excludes activation for training or for disasters, accidents, or catastrophes.

Under 10 USC 673c, the President has the authority to suspend the promotion, retirement, or separation of members of the armed forces. This authority applies to any member of the armed forces deemed essential to the national security. It applies only when members of a reserve component are serving on active duty under the authority of 10 USC 672, 10 USC 673, or 10 USC 673b.

Partial Mobilization

The President has the authority, under 10 USC 673, to order up to one million Ready Reservists to involuntary active duty for not more than 24 months after he has declared a national emergency. Ready Reservists include the Selected Reserve, Individual Ready Reserve, and Inactive National Guard. Every six months, the President must report to Congress on the necessity of units being ordered to or retained on active duty.

Full Mobilization

Only Congress can authorize a full mobilization by declaring war or a national emergency. Under a full mobilization authorized in 10 USC 672a, any Reserve unit, Reserve member, or military retiree may be ordered to active duty for the duration of the war/emergency plus six months. A full mobilization allows the military to bring its entire existing force structure to active status.

Total Mobilization

Only Congress can authorize a total mobilization by declaring war or a national emergency. Under a total mobilization authorized in 50 USC 451, any reserve unit, reserve member, or military retiree may be ordered to active duty for the duration of the war/emergency plus six months. A total mobilization allows the military to create new units and grow beyond its existing force structure.

DOD/JCS Mobilization Policy

Reference [17] provides guidance for peacetime planning and crisis mobilization for DOD. This Master Mobilization Plan describes in general terms what is to be done and who is to do it for each subordinate organization. For example, the military departments and services are tasked with defining and promulgating policies and guidance for mobilization planning, coordinating, and execution; preparing and executing mobilization plans; determining facilities required for mobilization; and planning and conducting service mobilization exercises.

Reference [18] provides planning guidance for the JCS. It identifies the general mobilization responsibilities of the JCS, the services, unified commands, and transportation operating agencies. The JCS is tasked by the Secretary of Defense to coordinate the mobilization plans of the services.

Marine Corps Mobilization Policy

Mobilization planning by the individual services provides details for the assembly and movement of reserve forces from the home station to the mobilization station. These details include information on stationing, equipping, and training reserve units and individuals to bring them to operationally ready status. The basic mobilization planning documents for the Marine Corps are the Marine Corps Capabilities Plan (MCP) [19] and Marine Corps Mobilization Management Plan (MPLAN) [20].

The MCP provides planners with the information they need to develop JCS operation plans (OPLANs). It provides general information on Marine Corps organization and deployment philosophy. It also describes the current and wartime force structure of active and reserve forces, gives force allocations for global and regional war scenarios, and delineates which SMCR units will augment/reinforce active forces [19].

The three-volume MPLAN provides the details on how the Marines will mobilize. It establishes the policies and procedures for mobilizing the Marine Corps. Volume I provides guidance, responsibilities, and mobilization procedures for the field commands. Volume II provides guidance on mobilization procedures for Headquarters Marine Corps departments. Volume III contains the troop stationing plan and a list of which units would be activated under the Presidential 200,000-man callup authority for different contingencies [20].

Implementing the Total Force Policy: Reserve Roles and Missions

The Marine Corps' active forces focus on the "force in readiness" role. As such, they maintain high readiness, support forward deployments, and prepare for quick response. They believe their most likely employment will be in low- to mid-intensity operations, but they also retain the capability to satisfy the initial commitment to general war. The mission of the reserves is to provide additional capability and depth for sustained operations during lengthy deployments or protracted combat.

The Marine Corps Ready Reserve consists of the SMCR and the Individual Ready Reserve (IRR). The other components of the Marine Corps reserve are the Fleet Marine Corps Reserve (enlisted personnel with between 20 and 30 years of service), Retired Reserve (retired officers and enlisted with over 30 years of service), and the Standby Reserve (other reservists liable for active duty only in limited cases; for example, certain federal employees).

The IRR is made up of individuals who have served previously in the active forces or SMCR. The IRR has two main roles: to augment the supporting establishment (bases, stations, training commands, and major headquarters), and to provide individual replacements. During an all-out war or protracted conflict, the IRR would provide a "band-aid bridge" until additional replacements could be either recruited or drafted and trained.

The SMCR consists of units and individual mobilization augmentees (IMAs) that participate in weekend drills and two-week annual training. The SMCR is the main source of trained units to fill out force structure in time of war. Its mobilization roles, which are listed in [21], are summarized below:

- Augmentation, which is filling existing structure. For example, a reserve rifle company may be called to fill an active infantry battalion.
- Reinforcement, which is reserves adding capabilities to active Marine air-ground task forces (MAGTFs). For example, a MAGTF may be reinforced by a reserve artillery battalion.
- Reconstitution (formerly called force expansion), which is reserves providing additional forces. The degree of expansion depends on how much of the SMCR has been used for augmentation and reinforcement. For example, in current planning, virtually the entire SMCR would be needed to bring the Marine Corps to three war-strength Marine expeditionary forces (MEFs).¹

In addition to assigned mobilization roles, there are several other significant characteristics of the Marine Corps implementation of Total Force Policy. First is the balance between active and reserve structure reflected in the "Mirror Image" concept. The structure of the SMCR is similar to that of an active MEF. Indeed, many types of active and reserve units have identical internal organization (for example, active and reserve rifle companies are the same). Although SMCR structure has been studied and modified over the years [22,23], it still approximates a MEF. The SMCR has a MEF-like look with a division, wing, and FSSG structure. A notable exception is that the SMCR has no aviation intermediate maintenance activity (reserve aviation units normally share facilities with nearby Navy or active Marine units).

1. A MEF normally includes a division, an air wing, and a force service support group under a MEF command element. Details on MEF structure are provided in volume IV of this report.

The Marines have a substantial investment in the reserves, both in terms of active-duty manpower dedicated to reserve support and in modernization strategy. Dedicated active-duty support consists of regular Marines filling billets in reserve units (such as aviation units), full-time support (FTS) reservists (SMCR members on active duty), and instructor-inspectors (I&Is). I&Is are regular Marines assigned to SMCR units; they handle much of the administration and training of their supported units. Until recently, they did not fill table-of-organization billets and did not deploy with their units. As a result of shortages in skilled staff officers and NCOs in some units during Desert Shield and Desert Storm, the Marine Corps is rethinking this policy--it is likely that some of the I&Is will be assigned to table-of-organization billets [24]. Counting regulars in reserve units, I&Is, and FTS, there are currently about 7,400 active-duty Marines dedicated to SMCR support [25]. That is, the Marine Corps has the equivalent of over seven infantry battalions of its authorized active-duty strength dedicated to full-time SMCR support.

In addition, current Marine Corps policy is that all commissioned officers in the SMCR be prior active service (warrant officers are sometimes accessed directly). Many senior noncommissioned officers also have prior service. Thus, much of the SMCR leadership has prior active-duty experience. Combined, the large number of prior-service reservists and the active-duty support program provide strong ties between the SMCR and the FMF.

Marine Corps policy is to modernize active and reserve units at the same time (although as new equipment is fielded, active units usually get it first). The intent is that active and reserve units have the same equipment. This strategy cannot always be followed because of budget constraints, which primarily affect aviation units. Thus, aviation squadrons often have earlier type/model/series (TMS) aircraft than the active forces (although the reverse is true in at least one case--the reserve VMGR squadron has later model KC-130s than active squadrons).

Active and reserve personnel attend the same entry-level and advanced schools, and the same training standards are applied to active and reserve units. For example, the Marine Corps Combat Readiness Evaluation System (MCCRES) is the same for active and reserve units. Additionally, two combined arms exercises (CAXs)¹ per year are set aside for SMCR units.

1. A CAX is similar to an exercise at the Army's National Training Center (NTC). CAXs are conducted at Twenty-Nine Palms, California, where there is enough room to allow battalion and larger formations to maneuver. The CAX includes live fire and provides the unit the opportunity to coordinate both air and ground fire support.

Changing Policy for Use of Reserves

From a functional viewpoint, the Marine Corps' implementation of Total Force Policy can be summarized in one sentence: SMCR units can perform the same functions as active FMF units, except for long-term peacetime forward presence. Note the qualifier *long term*. Reserves already participate in short-term peacetime forward-presence missions such as exercises that demonstrate U.S. resolve to help defend allies, and in other areas such as providing mobile training teams (MTTs) for "nation-building." Long-term forward presence refers to deployed Marine expeditionary units (MEUs) and the unit deployment program (UDP). MEUs deploy as the landing forces of Sixth and Seventh Fleets, and UDP units deploy to Okinawa.

Both MEUs and UDP units normally deploy for six-month periods. Units train or "workup" for up to six months before they deploy. For reserve units to participate in long-term deployment programs, policy would have to stipulate that reserves could be activated for a year during peacetime. Such a policy change would go beyond even the selective callup authority under 10 USC 673b. In addition, reservists in civilian jobs or in school would have difficulty taking a year off to participate. For this reason, it would be hard to activate entire SMCR units for a MEU or UDP deployment. The more likely practice would be to create volunteer units of reservists who wanted to be on active duty for a year. If reserves routinely participated in long-term deployments, the same people probably would volunteer repeatedly. Thus, the practical result of such a policy could be to create a series of "surrogate" active-duty units.

We also examined potential SMCR contributions to non-FMF missions. The non-FMF includes operational units (e.g., the Marine Security Guards Battalion) and the supporting establishment (e.g., management headquarters, bases and stations, and training commands). For the reasons already discussed, long-term peacetime assignments for reservists make little sense. And, as in the FMF, current policy allows reservists to participate in short-term peacetime projects.

In wartime, reservists already have the mission of filling "holes" in non-FMF units (see volume IV for a more detailed discussion of how they accomplish this mission). Policy does not prevent reservists from being used to fill positions vacated by active Marines transferred from non-FMF to FMF units--this was done extensively during the Korean War, and to a lesser extent during the Persian Gulf War. With these areas already covered, two basic questions remain: should reserve units replace active-duty Marines in the non-FMF so they can form additional combat units, and are there other "undiscovered" wartime non-FMF missions for reserve units?

SMCR units conceivably could be designed to replace certain non-FMF units, freeing the active-duty Marines to form additional combat units. Setting aside the problem of finding the appropriate MOS/grade active-duty Marines for additional units, it is not clear that there is any advantage to forming combat units this way. While assigned to non-FMF units, active-duty Marines do not train for combat functions (other than common tasks such as small-arms qualification). For this reason, predeployment training probably would be required. In addition, Marines would have to be formed into units, and they would need some time to get to know each other well enough to conduct the coordinated and cooperative activities required in combat. We have no evidence indicating that units formed this way would be ready any faster than SMCR units. Thus, there is no compelling reason to suggest that such a policy change would be advantageous.

To determine whether other wartime non-FMF missions might be assigned to reserve units, we examined both the non-FMF structure and documentation from Desert Shield and Storm. One mission was discovered: tending remain-behind equipment (RBE). When a unit deploys as part of a maritime prepositioning force (MPF), it "marries up" with equipment from the MPF ships. The majority of its assigned equipment is left at its home base as RBE. During Desert Shield, the first reserve unit involuntarily activated was Combat Service Support Detachment 40 (CSSD-40), which was a task-organized CSS unit assigned to care for First Marine Expeditionary Brigade's RBE. The Marine Corps Reserve Force Structure Planning Group (RFSPG) has already acted on that "lesson learned" by proposing to create base support battalions and squadrons in the Fourth Force Service Support Group (4th FSSG) and 4th MAW.

In sum, there do not appear to be any compelling reasons for major changes in the Marine Corps' interpretation of Total Force Policy relating to the SMCR (a policy change related to the IRR and Retired Reserve is discussed in volume IV). Any adjustments in the policy will depend on the eventual active and reserve force mix. This issue is addressed in detail in volume IV of the report.

DESERT SHIELD AND STORM: APPLYING THE TOTAL FORCE

In contrast to the hollow forces, low readiness, and turmoil that marked the initial response to the North Korean invasion of 1950, in August 1990 the nation possessed a sizeable, ready active force backed up by a potent reserve. The Marine Corps of August 1990 had a strong active component, with three MEFs each comprised of a division, wing, and FSSG. These three MEFs were not at full strength, but were backed up by an SMCR designed to augment and reinforce active forces, and a sizeable IRR to augment supporting establishment organizations and provide a pool of replacements.

Figure 3 shows the composition of the Marine Corps Reserve at the start of Desert Shield [26]. The largest component was the Ready Reserve, with about 38,300 in the IRR and 41,200 in the SMCR. The majority of SMCR members were in units, including most of the 2,300 FTS reservists. In addition, 1,300 IMA billets were available at the start of Desert Shield; about 900 of these billets were filled. IMAs have "hip pocket" orders assigning them to a specific table-of-organization billet in an active unit (primarily headquarters). A significant number of IRRs were also used.

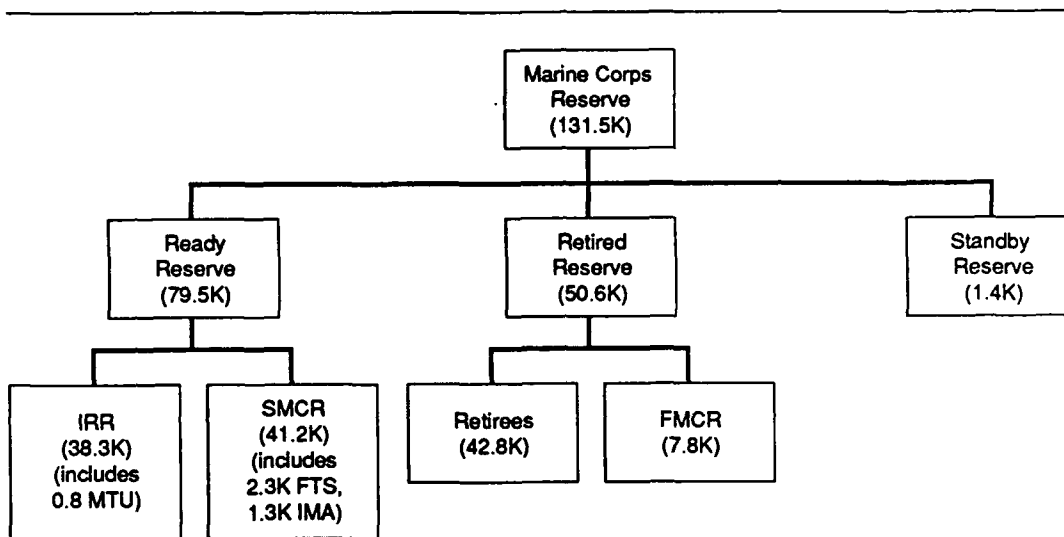


Figure 3. Pre-Desert Shield/Storm reserve structure

The Retired Reserve includes the Fleet Marine Corps Reserve (FMCR), which is enlisted personnel with between 20 and 30 years of service, and Retirees, which are retired officers and enlisted personnel with over 30 years of service. A few retired reservists, all volunteers, were used during Desert Shield/Storm. As far as we know, no members of the Standby Reserve were used (some may have transferred to another component and then been activated).

Significant Events in the Reserve Callup

U.S. involvement in the Persian Gulf Crisis began on 2 August 1990 when the President issued Executive Order 12722 declaring a national emergency to deal with the threat posed by Iraq's invasion of Kuwait.¹ Twenty days later (22 August), the President issued Executive Order 12727 authorizing the involuntary callup of reserve units under 10 USC 673b. Callup authority was issued incrementally by service; the Marine Corps' initial ceiling was 3,000 personnel.

Although authorized to do so, the Marines did not immediately start calling up reserves. On 24 August, the Commandant issued a message stating, in effect, that active forces would be used for the first 60 days of the contingency, but reserve units should "stand by" to be called up after that time [27]. There has been some discussion of whether it was Marine Corps "policy" not to call reserves for the first 60 days. A review of mobilization policy failed to produce any references to a 60-day policy. We believe the Commandant was proving a point--that the Marines, as the "force in readiness," could respond to regional contingencies for the first 60 days without reserve support.

Even during that first 60 days, however, the reserves were not idle. First, a small number of volunteers were used in the early stages of Desert Shield.² From the SMCR, 39 members from a Civil Affairs Group deployed to Saudi Arabia, the KC-130 squadrons supported aerial refueling operations, and a detachment of military police (about 40 personnel) assisted in base security at Camp Pendleton [28]. Second, there were at least two, and for some units three, drill weekends during that period. Many units used those drills for desert operations and other training to prepare for deployment to the Gulf. Third, there was an "admin blitz" [29] in September to prepare SMCR personnel and organizational records for the impending mobilization.

Active-duty elements of the supporting establishment used the pre-callup time to prepare some predeployment training packages and to prepare for the arrival of large numbers of reserves. Finally, some

1. C-Day, the day forces commenced movement, and D-Day, the beginning of Operation Desert Shield, were both set as 7 August.

2. We were unable to determine the exact number of volunteers during Desert Shield. A number of reserve activities occurred during the first two months, and it was not possible to separate those who directly supported Desert Shield from those who did not. Based on discussions with staff officers at HQMC, MARRESFOR, and MCRSC, we estimate the total to be less than 200.

active units had already deployed from Camp Pendleton and Camp Lejeune, the two main stations of initial assignment (SIAs),¹ by the time the reserves started arriving in large numbers. This situation somewhat reduced the competition for ranges and training areas (although there were still a lot of active units at Camp Lejeune).

Reserve Activation Statistics

Once the 60-day "limit" had passed, the Marine Corps started calling up SMCR units. Figure 4 shows the arrival of involuntarily activated reservists at the SIAs [30]. The callup was incremental, with ceilings set on the number that could be called by service; the figure also displays those ceilings. The time scale refers to C-Day, which was 7 August 1990, as day 0. The first unit activated was Combat Service Support Detachment 40 (CSSD-40), which maintained 1st MEB's RBE and provided intermediate maintenance support to nondeployed 1st MEB units. CSSD-40 reported to the SIA on 12 October.

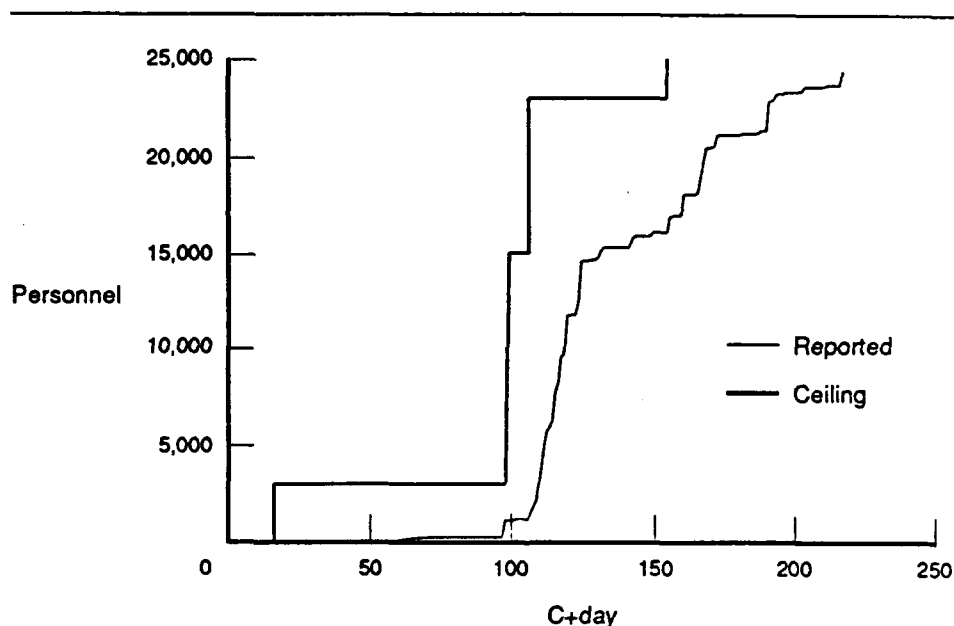


Figure 4. SMCR callup for Desert Shield/Storm

1. Five SIAs were used during the Gulf War: Camp Lejeune (ground) and Cherry Point (air) on the east coast, Camp Pendleton (ground) and El Toro (air) on the west coast, and Quantico. Quantico was used to a limited extent, primarily as a pipeline for reservists assigned to the Washington, D.C., area.

Reserves started arriving in large numbers in mid November (around C+100). The typical delay between a reserve unit being activated and arriving at the SIA was about two weeks. That is, activation of large numbers of SMCR units began around the end of October (about C+85). One reason the Marines waited so long to start activating large numbers of reservists was the initial ceiling of 3,000 Marines that could be called. Initial estimates of requirements for SMCR units totaled more than 3,000 personnel [28,31]. Thus, it was necessary to pare down the list of units to be called and to get the most needed capabilities without exceeding the ceiling. In many cases, the Marines called up partial units (called detachments). This situation continued through the second increment, at which time the ceiling was set at 15,000. (In fact, if the "reporting" line in figure 4 is moved two weeks to the left, representing the typical notification time, it almost coincides with the "ceiling" line.) For this reason, many of the "units" called up were called as detachments rather than whole units.

By the end of Desert Storm, 24,324 SMCR reservists reported for duty. Figure 5 shows the distribution by size of SMCR units activated. IMAs are individuals preassigned to specific billets in active units. About 900 of the 1,300 IMAs billets available at the start of Desert Shield were filled; 828 IMAs were called up. Thus, the IMA supply was virtually exhausted. A total of 5,763 reservists (24 percent) were called up as small "units"--detachments, sections, teams, or platoons. Although the caps on reserve callups were not the only reason for this situation,¹ they contributed to a departure from the expected activation process (problems related to this approach are discussed in the Issues section below).

The term *reported*, as used thus far, means that a reservist reported for duty at the SIA. Reasons for not reporting include those "excused" (primarily because they were not physically qualified (NPQ)) at the mobilization station (where reservists were screened before moving to the SIA) and no-shows.² Overall, 25,710 SMCR personnel were called; 24,324 (95 percent) reported. Figure 6 shows the distribution of personnel called and reporting within the major elements of the SMCR.

1. In some cases, less than a whole unit was called because the entire unit was not needed; rather, certain particular skills were required. The attitude was that calling up parts of a unit that were not needed would be wasteful [29,31].

2. We were unable to determine exactly how many SMCR no-shows there were, but the numbers were reported to be extremely low (less than one percent) [28,29,32,33]. The MCRSC Judge Advocate [34] reported that, of the 7,595 IRRs called, there were 14 cases of legal action against no-shows--0.2 percent. Because the Marine Corps has less "contact" with IRRs than the SMCR, we would expect the no-show rate to be greater for IRRs than for SMCRs.

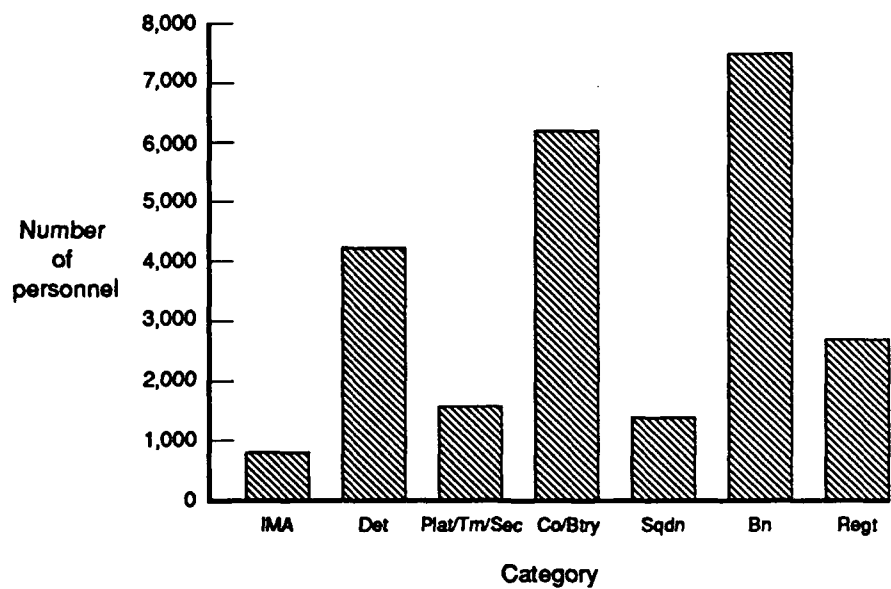


Figure 5. Distribution of reporting SMCR by size unit

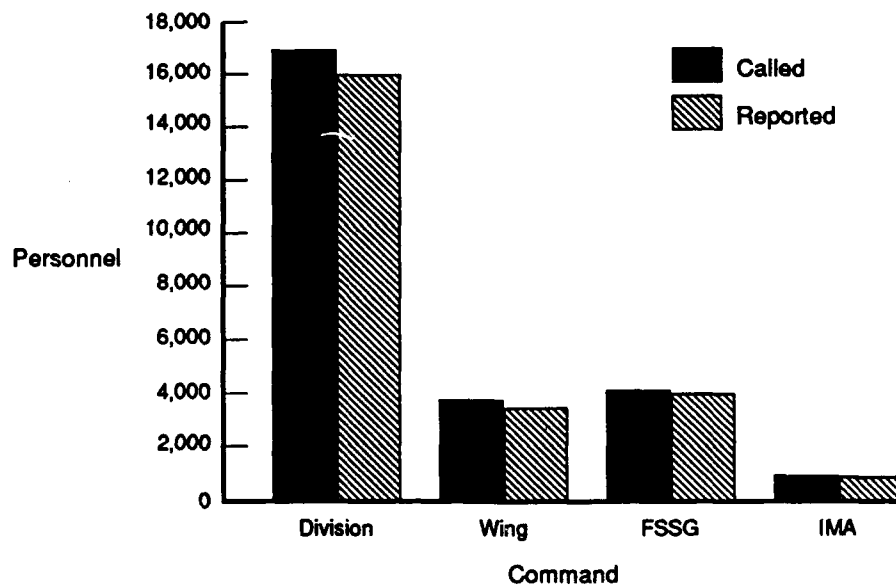


Figure 6. SMCR callup by major command

The following percentages reported: 94 percent from Fourth Marine Division, 93 percent from Fourth Marine Aircraft Wing, 98 percent from Fourth Force Service Support Group, and 95 percent of IMAs.

Virtually everywhere there were active-duty Marines there were Marine reservists. Indeed, the only area in which we found no evidence of reserve use was the special-operations-capable Marine expeditionary units (MEUs(SOC)) that deploy to the Mediterranean and Western Pacific. MEUs undergo an intensive six-month predeployment training program followed by a six-month deployment, so it is not surprising that reservists would not be in them.¹ Figure 7 shows how SMCR personnel were distributed among deployments to Southwest Asia (SWA), Marine units other than those in SWA (other operating forces such as those in Okinawa, plus bases and stations), and management headquarters (including HQMC, naval headquarters, and joint headquarters). Most of the IMAs went to management headquarters. The only regiment activated as a regiment (that is, with forces assigned upon activation) was assigned to V MEF at Camp Pendleton. In addition, a regimental headquarters (forces were assigned after deployment to SWA) was assigned the rear area security mission in SWA. Overall, the majority of SMCR personnel (14,228 of 24,324, or 58 percent) were deployed to SWA.

Figure 8 breaks down the SMCR personnel deployed to SWA by assigned command. I MEF encompasses 7th MEB from Twenty-nine Palms, California (the first forces deployed), and other I MEF elements from Camp Pendleton. I MEF had 3,153 SMCR personnel, almost all arriving in units of detachment through squadron size.² 1st MEB was the second maritime prepositioned force (MPF) MEB that deployed as part of I MEF, and had 352 reservists, including a helicopter squadron. In the figure, II MEF represents the forces normally assigned to it (2d MarDiv, 2d MAF, and 2d FSSG; the II MEF Command Element did not deploy to SWA). II MEF's 9,842 reservists made up about 40 percent of the II MEF forces deployed [32] and included the SMCR battalions that were employed in combat. 5th MEB was initially afloat, but later landed as the I MEF operational reserve. It had 882 reservists.

1. One reserve infantry battalion (1st Battalion, 24th Marines), did receive special operations training while assigned to Okinawa as part of the UDP.

2. Squadrons, companies, batteries, and smaller units (detachments, teams, and platoons) routinely drill together as a unit. Battalions and regiments rarely have that opportunity.

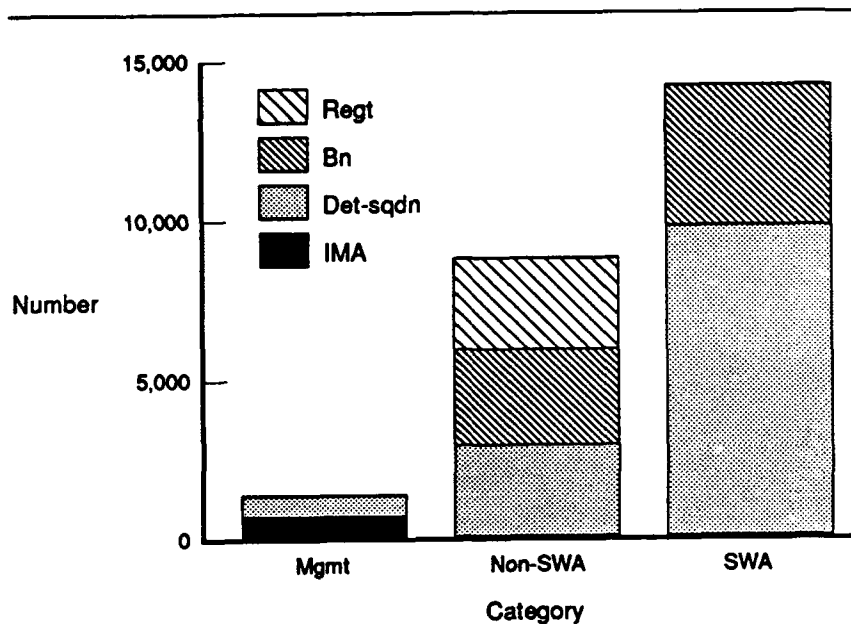


Figure 7. Distribution of SMCR

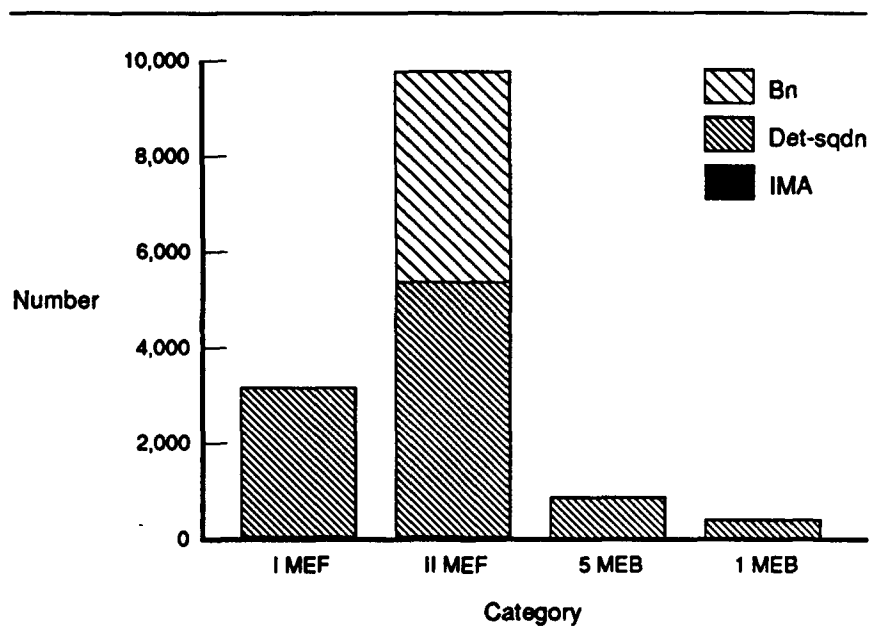


Figure 8. SMCR deployed to SWA

Figure 9 gives another view of SMCR personnel distribution, showing their assignments to the major subordinate elements (MSEs) of each of the major deployed forces. Over half of I MEF's and all of 1st MEB's reservists were from the combat service support element (CSSE), that is, from 4th FSSG. II MEF received the bulk of reservists from 4th MarDiv and from the SMCR command element (CE).¹ Aviation combat element (ACE) reservists from 4th MAW were divided almost evenly between I MEF and II MEF forces.

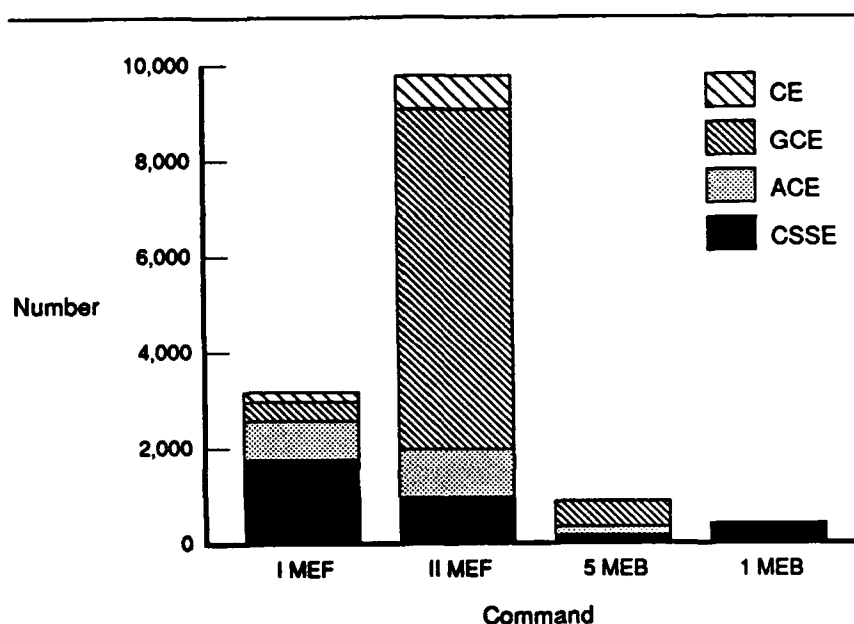


Figure 9. SMCR by command

In addition to the SMCR callup, 7,595 IRRs and Retired Reservists (including 538 retirees, all volunteers) were activated. Of those, 6,674 (88 percent) eventually joined a unit [26]. Only 14 no-shows were prosecuted as deserters. Another 85 were no-shows because their orders were undeliverable due to an incorrect address. The rest had their orders cancelled for a variety of reasons (e.g., through key employee exemptions, because they were members of another reserve component or service, or because they were NPQ or in the hands of civilian authorities).

1. The command element includes units of the surveillance, reconnaissance, and intelligence group (SRIG) that supported the intelligence requirements of the MEF.

Of the 7,595 individuals activated, 1,416 were preassigned IRRs (PIRRs). PIRRs are the IRR analog to IMAs; they are assigned to a specific billet in the supporting establishment. The orders for 132 PIRRs were canceled, so 1,312 joined a unit. Most of the remaining IRRs were assigned as individual replacements in casualty replacement companies (CRCs). These individuals received one or more of the following refresher training packages [33]:

- Individual refresher training, which focused primarily on skills needed for desert warfare and provided a SWA cultural orientation.
- Combat refresher training, which focused on basic skills such as marksmanship, chemical defense, and small-unit tactics.
- Military occupational specialty (MOS) refresher training, which reviewed MOS-specific skills.

Issues and Observations From Desert Shield/Storm

There are a host of after-action reports, lessons-learned commentaries, reconstruction reports, analyses, periodical articles, and other writings about Desert Shield and Desert Storm. These publications collectively address virtually any issue of interest about those operations, sometimes with conflicting viewpoints. This section summarizes the most significant issues related to reserve activation, post-mobilization preparation, and performance.

Reserve Pay System

The most-reported problem [28,29,31,32,33] from the reserve mobilization during Desert Shield/Storm was an administrative one--the transition from the Reserve Manpower and Management Pay System (REMMPS) to the Joint Uniform Military Pay System (JUMPS) that occurs when reserves are activated. Both systems are automated, but they are incompatible with each other. Thus, reserve accessions had to be entered into JUMPS manually.

The large number of reservists activated over a relatively short period of time, combined with the normal data-entry errors that occur when manually entering large volumes of data, overwhelmed the administrative system. It took several months to correct some reservists' pay problems.

Callup as Detachments Instead of Units

A number of reservists were dissatisfied with being called up and deployed as detachments instead of whole units [32,33]. Although policy states that the SMCR is to be mobilized as units, the definition of unit leaves much room for interpretation. Referring to a Secretary of Defense memo of 23 August 1990, the Marine Corps Staff Judge Advocate noted that a unit consisted of "any group or detachment of two or more individuals organized to perform a particular function, whether or not such a group is part of a larger group" [35]. The Marine Corps called up a large number of such detachments. Thus, there was a dichotomy of views. Active planners saw the SMCR as a pool of manpower that could be drawn from as needed (particularly given the ceilings on number of reserves that could be called); reservists expected to be employed as intact units.

This issue was not merely one of diverging views. Some reserve detachments were activated without equipment and, because their "headquarters" were not activated, without knowing what equipment they should have (SMCR units train with a training allowance that is smaller than their table of equipment) [33]. This situation added another problem to an already stressful situation in which reservists were, in a very short time, attempting to train, prepare for deployment, and become acquainted with the people and procedures of their "new" unit.

In addition, some units that had detachments activated early were activated in full later. When this occurred, those units had pieces missing, which had to be filled with personnel from some other source. Thus, these units experienced the same problems as the detachments-- attempting to train and prepare for deployment with new people.

How Units/Individuals Were Selected for Activation

Any time there is less than a full mobilization, units and individuals must be selected for callup. That being the case, it is useful to examine the criteria by which some were selected and others were not. Two officers directly involved in the selection process provided the bulk of information about how this was accomplished [36,37].

The first step was to determine the requirements for reserves; this step was accomplished by Headquarters, Marine Corps (HQMC) coordinating with representatives of the FMF to determine "generic" requirements, namely, how many of which types of units or skills. Because of the cap on number of reservists that could be activated, it was necessary to prioritize the list. Once the priorities were set and the types and

quantities of units needed were determined, the list was transmitted to the SMCR commanders,¹ who determined the actual units to be activated.

Reserve commanders had a number of tools at their disposal to indicate readiness of units. These tools included the Status of Resources and Training System (SORTS) reports, the results of MCCRES inspections, and Military Operational Readiness Deployment Tests (MORDTs). These evaluations were used as indicators, but the decision was made based on the commanders' knowledge and judgement of their units' readiness. An advantage of the Marine Corps, including the SMCR, is that it is a relatively small service. In such a small community, everybody knows everybody else, particularly at the senior levels. The decision-making process involved a lot of networking; for example, the 4th MarDiv commander might call one of his regimental commanders and ask him to identify his best battalion. In some cases (e.g., the military police), the decision was particularly easy because all of a particular type unit or skill was needed.

Once the decision was made, HQMC would specify both the unit and the number of personnel to be activated (because of the personnel ceilings). Both because the specific number to be activated was determined and because many SMCR units did not have serious (or sometimes any) personnel shortages,² the Marines did not generally cross-level units. The one exception noted was in the case of Sixth Motor-Transport Battalion (which ran "Saudi Motors," a line-haul transportation pipeline). That battalion was short of drivers; the shortage was made up by picking drivers with the appropriate MOS from within 4th MarDiv.

1. These commanders were Commanding General (CG), 4th MarDiv and CG, 4th MAF; CG 4th MarDiv also commanded 4th FSSG. Overall command of the SMCR is now vested in CG, Marine Reserve Forces (MARRESFOR).

2. When units to be activated had personnel shortages, volunteers from the IRR or other SMCR units were sometimes allowed to join or transfer to that unit shortly before activation. A total of 1,174 IRRs transferred to SMCR units for Desert Shield/Storm. About 300 more were recruited for active-duty units.

The Marine Corps Reserve Support Center (MCRSC) selected individuals for callup¹ based on requirements for PIRRs and individuals for CRCs. The selection criteria were: first, having the required grade and MOS, and second, how recently they had been on active duty.

Mobilization Timing

Once units and individuals had been selected for activation, the notification, processing, and post-mobilization training process began. A survey of reservists deployed to SWA was conducted [38] to determine how much time was allotted to these aspects. There were 3,023 responses to the survey, which was about 20 percent of the reservists that deployed to SWA. Of the total, 2,475 were SMCR, 32 were IRR, 6 were IMA, 2 were FMCR, 19 were Navy reservists (medical or chaplain personnel), and 489 did not identify their component.

The first step was to notify reservists that they were being activated. According to [30], the typical time between the notification message and date the unit was to arrive at the mobilization station was about ten days. The survey results indicated a wide range of times between official notice and reporting--from none to over a month--but reservists had an average of about seven days official notice before they were to report to the mobilization station.² The difference between seven and ten days is probably the difference between the time the message was sent and when the reservist knew about it.

The vast majority (almost 70 percent) of reservists spent two to three days in administrative screening and processing at the mobilization station before moving to the SIA. Thus, allowing 1 day from the time the activation decision is made for the activation message to be sent, 7 to 10 days for reservists to report to the mobilization station, 2 to 3 days for their processing at the mobilization station,

1. Individuals include IRRs and IMAs. Because they are assigned to specific billets, determining which IMA billet is to be filled basically determines which individual is activated. The same is true of PIRRs, except that some PIRRs who had the appropriate grade and MOS were allowed to volunteer for other (unfilled) PIRR billets. Although this practice was not widespread, it had the same cascade effect as SMCR units that were activated after deploying detachments earlier--a particular PIRR billet would need to be filled, but the individual assigned to that billet had volunteered and been activated for a different billet.

2. The survey also indicated that the vast majority of reservists had one to two weeks of "informal warning"; that is, they were told one or two weeks in advance of the official notice that they would be activated.

and 1 or 2 days for them to move to the SIA, we conclude that it took from 11 to 16 days, or about two weeks, from the activation decision until the unit or individual arrived at the SIA.

Reserves received their post-mobilization (predeployment) training at the SIA. According to plan, reserve units were to have 30 days at the SIA before deployment [28,29]. Table 4 shows the responses to the question "How long did you stay at the SIA?" Although the responses show a range of zero to over six weeks, two-thirds of the reservists were at the SIA for the planned time. Considering that the requirements to have units in theater forced some conscious decisions to deploy before the 30 days were up (for example, units that joined 5th MEB had 10 days [32]), it is remarkable that the plan was followed this closely.

Table 4. Time reservists spent at the SIA

Time at SIA (days)	Survey responses	
	Number	Percentage ^a
0	9	0.3
1 - 7	96	3.3
8 - 14	137	4.8
15 - 21	212	7.4
22 - 28	396	13.8
29 - 35	1,847	64.2
36 - 42	77	2.7
over 42	105	3.7

a. Percentages may not sum to 100.0 due to rounding.

Training Difficulties of Reserve Units

The amount of time units had to train is important, but how much training they received and how well they performed are more important. Reserve units experienced a number of difficulties in their 30 or so days at the SIA. A number of sources discuss these difficulties [28,29,32,35,39]. Some training problems have been publicized in the open literature (e.g., in [40]).

Even though some of the actives had deployed and were thus "out of the way," training facilities at the SIAs were limited. Some of the limitations, such as space in maneuver areas, are facts of life for the military. The amount of space needed to conduct maneuver training with battalions and regiments is simply not available at many bases. When such areas are available (as at Twenty-nine Palms), only a limited number of units can use them at a time. Competition for training facilities was worse at Camp Lejeune than at Camp Pendleton. Most of the active I MEF forces had deployed from Camp Pendleton before reserve units started arriving in large numbers. II MEF (at Camp Lejeune) active and reserve units were both preparing for deployment at the same time, however, and had to share the training facilities.

Equipment (major end items) was also limited. Many reserve units were scheduled to receive equipment from the Maritime Prepositioning Ships, and were therefore ordered not to bring equipment to the SIA with them. Thus, when they arrived they did not have the equipment they needed to train. Because ammunition was being conserved for use in the war, there was a shortage of training ammunition (this problem also affected active units), so live-fire training was limited. Some units' live-fire training was restricted to that needed to battlesight zero (BZO) their weapons; some were not able to conduct any live-fire training. Opportunities for live fire in theater were also restricted by lack of ranges and ammunition being conserved.

Base support was limited. At the time when the requirements were highest, bases were understrength because they had lost fleet assistance program (FAP) personnel.¹ In a deployment, FAP personnel return to their parent units. Mobilization planners assumed that partial mobilization would occur shortly after the 673b callup, so that PIRRs needed to fill empty FAP and other mobilization billets would be available. Because partial mobilization did not occur until 26 January, bases and stations experienced personnel shortages at the crucial time--while they were attempting to support the deploying combat units. Because the Gulf War was a popular war, the Marine Corps was able to partially overcome this problem by using volunteers and some IMAs (who are subject to 673b callup). Nevertheless, the shortages exacerbated the base support problem. With facilities, equipment, and base support limitations, some reserve units felt that, in the 30-day period, they got as little as 10 full days of training.

There were few (if any) predetermined training programs that SMCR units were required to complete. Post-mobilization training time was determined by when the units were required in theater. The planning assumption was that they would receive at least 30 days at the SIA

1. FAPs are personnel from a nondeployed FMF unit who fill billets in bases and stations. This allows a personnel savings during peacetime that is assumed will be made up during wartime with mobilized reservists.

before deploying, but some reserve units (such as those that joined 5th MEB) had less time. Generally, SMCR units were allowed to develop their own training plans based on what they thought they needed in the time available. The difficulty was that in the limited time available, commanders and staff officers, particularly those in battalion and regimental headquarters, faced a dilemma: either they could help organize and conduct training or be trained themselves. Almost invariably,¹ they chose to train others and received little training themselves.

The effects of the modernization programs of the 1980s were felt in some reserve units that had recently received new equipment and had little time to train with it. Some active units had the same problems (for example, the tank units that transitioned from M60s to M1A1s). During the time between deployment and the beginning of the ground war, most units overcame these problems. Perhaps the most famous (certainly the most publicized) example is B Company, 4th Tank Battalion. This unit received new M1A1 tanks and had only a two-and-a-half week training program to become familiar with the tanks before going to war. During the 100-hour ground war, this company was involved in breaching both mine-belts and defeated two Iraqi counterattacks, destroying about 90 armored vehicles without losing a single tank.

Performance of Reserve Units

With all the training obstacles to overcome, one might think the reserve units' combat performance would be substandard. As B Company's example shows, however, such was not the case--depending on the size unit. Virtually all post-war comments on reserve performance [32,33,41] were positive about the performance of small units² (for specific comments by active-duty commanders, see pages 6 and 7 of [32]). The factor most characteristic of units receiving positive comments was drilling together: companies, batteries, aircraft squadrons, and smaller elements of those units. The facts that those units drill together monthly and have strong active-duty support (such as I&Is) were often cited as the reason for their good performance. In other words,

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1. Under current practices, reserve units are expected to be aware of their deficiencies and correct them during the post-mobilization training period. By all accounts, they did that during their stay at the SIA. The problem arises when training time is limited. Commanders and staffs did not have enough time to both train their subordinates and practice the complex tasks required to become fully capable staffs.
 2. About the only negative comments on individual or small-unit performance were that some CSS reservists' MOS skills were not up to standard. Leaders in units to which those reservists were assigned tended to give them less-demanding tasks. The problem with this approach was that it did not solve the deficiency and created a morale problem for some reservists, who felt they were viewed as a "giant working party" [32].

even though they could have gotten better post-mobilization training, they were able to overcome their deficiencies. Other factors cited were that many reservists were either college students or graduates--they were easy to train and adapted quickly--and many others had civilian jobs similar to their MOS.

Aviation squadrons are the air equivalent of a ground maneuver battalion, but aviation operations differ in nature from ground operations. Generally, aircraft fly in relatively small groups, and their performance depends more on individual pilot skills than on the control and coordination needed to employ maneuver units. Because squadrons have fewer personnel than maneuver battalions, SMCR squadrons are collocated and train together. Also, flying squadrons generally have a higher proportion of active-duty support personnel. Comments about reserve squadron performance mirrored the comments about ground companies and batteries. In fact, their basic flying skills were sometimes rated higher than those of active units. They did need additional training in advanced skills such as low-level and night flying. At the SIA, they experienced some of the same problems as ground units. For example, certain equipment items such as night vision goggles were in short supply (this was also true for active squadrons). Contrary to the limited in-theater training opportunities for ground units, however, aviation training continued once units got to Saudi Arabia.

At the battalion level, the comments were mixed. Most commentators stated that battalions needed a longer time to get ready because they have fewer opportunities to train together. No doubt the fact that commanders and staff officers used available time to train others (discussed above) exacerbated the problem. Two of the five maneuver battalions deployed to SWA were employed in "front-line" combat.¹ The 8th Tank Battalion was employed with 2d MarDiv, and 3d Battalion, 23d Marines (an infantry battalion), was employed with 2d MarDiv's 8th Marine Regiment. The I MEF commander specifically noted the creditable performance of 8th Tanks, but also pointed out that the division staff spent a lot of time and effort working to get them ready [41]. The general consensus of comments was that battalion staffs needed more time to "gain control" of their units, learn to work with adjacent and higher staffs, and practice the complex tasks (such as fire-support coordination) associated with battalion operations.

At least one senior officer attributed battalion headquarters training deficiencies to a conscious decision on the part of the Marine Corps to focus on company-level training in reserve units [42]. Many SMCR rifle companies were slated to be the fourth rifle companies of

1. Two SMCR battalions--2d Battalion, 24th Marines, and 3d Battalion, 24th Marines--were given rear area security missions. The other battalion--1st Battalion, 25th Marines--was assigned the prisoner-of-war collection mission.

active battalions [21], and Marine tank battalions generally expected to detach companies to support infantry battalions and regiments. With little expectation of being employed as battalions, the training focused on companies, so battalion staffs had as little impetus as opportunity to train as such.

The decreasing favorability of comments about reserve performance as unit size increased was also reflected in the comments of the reserves themselves. As part of the reserve survey, reservists were asked to rate their performance in Desert Storm on a scale of 1 to 5 (5 being the highest rating), both as individuals and units; over 80 percent gave themselves a 4 or 5 in both categories. When asked to rate whether they were sufficiently trained at various levels from individual through battalion, however, table 5 shows that the number decreases as the size unit increases (the responses include those assigned to active-duty battalions). In fact, the average drops below 3.0 (the "neutral" point) only for the "battalion or higher" level.

Table 5. Reserve survey responses to training questions

Rating	MOS	Sufficiency of training		
		Small unit (plat/sec)	Company	Battalion or higher
1 (did not prepare)	262	206	264	485
2	178	269	322	359
3 (somewhat prepared)	524	671	693	562
4	1,019	999	723	377
5 (greatly prepared)	932	705	441	164
Total responses	2,915	2,852	2,443	1,947
Average rating	3.75	3.61	3.31	2.68

One regimental headquarters was deployed to SWA and assigned the mission of rear-area security. Regimental operations are even more complex than battalion operations, and comments about the performance of regiments were less favorable than those for battalions. It should be noted that even unfavorable accounts of regimental (and battalion) headquarters' performance do not denigrate the performance or competence

of individual reserve officers. Most blamed the performance on the fact that reserve battalion and regimental headquarters rarely have opportunities to train as such.

Volume III develops estimates of the amount of time needed for different size units to be as ready as active units.

Marine Corps Worldwide Commitments

The Marine Corps not only responded to Desert Shield/Storm, but also maintained its other commitments around the world. These included Marine expeditionary units (MEUs) deployed to the Mediterranean and Western Pacific plus forces stationed in Okinawa and Japan. In addition, Marines responded to crises in Liberia, Somalia, the Philippines, and, later, Bangladesh.

Table 6 summarizes Marine Corps deployments on 15 January 1991 [39], just before the start of Desert Storm. The table includes only forces either deployed or preparing ("working up") for deployment. Air contingency forces (ACFs)¹ and forces that deployed for exercises are not included. The table shows how many troops were committed, plus the numbers of infantry battalions and aircraft squadrons (shown as "pacing units" for ground and air forces) that were deployed. It also shows what forces were available in FY 1991 and what forces are planned in the DOD Base Force for FY 1997 (see volume IV of this report for a detailed description of this force). Shown in parentheses after the available forces are the percentages of each type force included in the 15 January deployments.

Note that even the relatively large FY 1991 force was heavily tasked to support these worldwide commitments. Sixty-eight percent of the total FMF troops were deployed, and almost all (91 percent) of the infantry battalions were committed (if ACFs were included in the table, all the infantry battalions would have been committed, even accounting for units that were double-hatted). Note also that, although in gross numbers the DOD FY 1997 Base Force would have enough troops (89 percent), it would not have enough infantry battalions² to support all the deployments.

1. Each MEF maintains two reinforced infantry battalions on a short "tether" for rapid deployment to a crisis or for reinforcing other deployed forces.

2. The DOD Base Force would not have enough of several other types of units (e.g., tank battalions) either.

Table 6. Marine Corps deployments on 15 January 1991

Location	Troops (in thousands)	Infantry battalions	Aircraft squadrons
Southwest Asia			
Ashore	67	18	30.3
Afloat ^a	17.7	6	10.5
Mediterranean MEU ^b	2.2	1	2.4
WestPac ^c	18.2	3	9
Workup MEUs	4.3	2	3.8
Total	109.4	30	56
Available in FY 1991 ^d	160 (68%)	33 (91%)	78 (72%)
DOD FY 1997 Base Force ^e	124 (89%)	24 ^f (125%)	69 (81%)

- a. The force that conducted the noncombatant evacuation operation (NEO) in Somalia was detached from afloat forces in the Persian Gulf.
- b. The force that was sent to Liberia was detached from this MEU.
- c. Includes forces stationed in Okinawa and Japan, plus the WestPac MAGTF that responded to the Philippines crisis.
- d. Includes both the active FMF and SMCR units.
- e. This force is described in detail in volume IV of this report.
- f. Both infantry and light armored infantry battalions are counted to produce this total.

SUMMARY:

COMPARISON OF RESERVES IN KOREA AND THE PERSIAN GULF

The Marine Corps Reserve has been mobilized for two of the three major post-World War II conflicts involving the United States. In both cases, reservists made vital contributions toward winning the war. There were significant differences in both the active forces and the way reserves were used in the two wars, however.

The Korean War came shortly after the massive demobilization following the end of World War II. At that time, the active-duty Marine Corps had been reduced to the point that it could not field a war-strength division. Reserves had to be activated at the beginning of the conflict for the Marines to be able to field the division-wing team that deployed to Korea. Although the Organized Reserve included reserve units, all but two of these units were broken up to provide fillers. An important factor in the Marine Corps Reserve's quick response was that a significant number of reservists, particularly officers and NCOs, were World War II veterans. The Marines were able to pick combat-trained reservists to fill early-deploying units, and train the rest for later deployment.

Between the Korean and Persian Gulf Wars, active force structure was built back up to counter the Soviet and other threats of the Cold War. An active component of three Marine divisions and wings was written into law, and legislation improving the structure and training of reserve components was enacted. In addition, the Total Force Policy was adopted, strengthening the relationship and integration of active and reserve components. Although the Cold War was over by August of 1990, the total force structure was largely intact. The Marine Corps of the Gulf War was larger, better equipped, and better trained than that at the start of the Korean War.

The Total Force Policy was tested for the first time in the Gulf War. Active forces were more numerous and better prepared for this war than for Korea, and were able to meet the requirements for early-deploying forces. Except for a few volunteers, Marine reserves were not activated during the first 60 days of the Persian Gulf War. But once it became clear that additional forces were needed, initially for rotation and then for the buildup to offensive capability, reservists augmented and reinforced active forces both in the desert and other areas. Unlike Korea, the Marine Corps maintained other commitments in addition to providing forces in the Gulf. The Marines, however, could not have filled all their worldwide commitments without reserve activation.

There were two notable similarities between Korean and Persian Gulf War reserve callups. First, the training time before deployment was about a month. In the Korean War, little of that time was available for training, but the Marines were able to draw from combat veterans in the

reserves. Relatively few combat veterans were in the Marine Corps Reserve at the start of Desert Shield.¹ Even so, active/reserve integration programs such as I&Is and active-duty support personnel in SMCR units, FTS reservists, the large number of reservists with prior active service (particularly in leadership positions), and policies such as having the same training standards for active and reserve forces produced an SMCR that was able to respond when called. With those advantages, SMCR units were able to overcome the limited time, limited training opportunities, and other "less than ideal" conditions during the post-mobilization period. The degree to which they overcame the limitations depended on whether the unit drilled together. Units that drilled together (squadrons, companies, and below) performed better than those that did not (battalions and regiments). The second similarity was the delay between enemy invasion and reserve callup. In both cases, about three weeks elapsed before the President authorized the services to activate reserve forces.

Reserve units and individuals provided the depth needed for the Marines to meet the requirements of the Persian Gulf War and other commitments. Although reserve units were not broken up as they had been in the Korean War, a significant number of small SMCR units (detachments, teams, sections, and platoons) were deployed to the Gulf to augment the active forces. Larger units--companies, batteries, squadrons, and battalions both augmented and reinforced active forces. Reserves from individuals through battalions saw combat.

In sum, it appears that the lessons of the Korean War were learned and instituted. Although the Cold War threat was partly responsible for the larger and more ready forces of 1990, the laws, policies, and practices enacted between the wars certainly shaped a better total force. There were certainly problems during the mobilization, and there are lessons to be assimilated, but the Total Force Policy successfully passed its first major test.

1. Only 153 of 2,982 reservists who responded to the reserve survey question about combat experience indicated they had prior combat experience.

REFERENCES

- [1] 102d Congress, 1st Session Report 102-311, *National Defense Authorization Act for Fiscal Years 1992 and 1993*, Conference Report to Accompany HR2100, Nov 1991
- [2] CNA Research Memorandum 87-173, *Statutory History of the U.S. Marine Corps Reserve*, by Mein Sieng Wei, Sep 1987
- [3] Department of Defense Directorate for Information, Operations, and Reports, "Selected Manpower Statistics," recurring series
- [4] Headquarters Marine Corps, Division of Reserve, *The Marine Corps Reserve, A History*, by Reserve Officers of Public Affairs Unit 4-1, 1966
- [5] Allan R. Millett. *Semper Fidelis. The History of the United States Marine Corps*. New York: MacMillan Publishing Company, 1980
- [6] J. Robert Moskin. *The Marine Corps Story*. New York: McGraw Hill Book Company, 1977
- [7] Statement of General Alexander A Vandegrift, USMC, before the Senate Naval Affairs Committee at Hearings on S.2044, 10 May 1946, as quoted in [5]
- [8] Remarks of Brigadier General Frank A. Armstrong, 1 Dec 1946, as quoted in [5]
- [9] 80th Congress, 1st Session, House Report 961 on H4212, Jul 1947
- [10] 80th Congress, 1st Session, Section 206(c) of the National Security Act of 1947, Jul 1947
- [11] 82d Congress, 1st Session, House Report 666 to Accompany S.677, Jun 1951
- [12] 82d Congress, 1st Session, House Report 2199 to Accompany S.677, Jun 1952
- [13] Congressional Record--House, pages 5436-5461, 16 May 1952
- [14] Victor H. Krulak. *First to Fight: An Inside View of the U.S. Marine Corps*. Annapolis: U.S. Naval Institute, 1984

REFERENCES (Continued)

- [15] Department of Defense, *Total Force Policy Paper to the Congress*, Dec 1990
- [16] Center for Naval Warfare Studies, Naval War College, *Operation Desert Shield/Storm: Reconstruct of Naval Reserve Callup, Appendixes, Volume III*, Apr 1991
- [17] Office of the Secretary of Defense, *Department of Defense Master Mobilization Plan*, Nov 1985
- [18] Joint Chiefs of Staff, *Mobilization, Joint Publication 4-05*, Aug 1987
- [19] Headquarters, Marine Corps, *Marine Corps Capabilities Plan (MCP)*, Secret, Dec 1986
- [20] Headquarters, Marine Corps, *Marine Corps Mobilization Management Plan (MPLAN)*, Oct 1988
- [21] Headquarters, Marine Corps, *Marine Air-Ground Task Force Master Plan (MMP) 1992-2002*, Jun 1991
- [22] CNA Research Memorandum 88-111, *Selected Marine Corps Reserve Structure study: Final Report (U)*, by Douglas W. Skinner, Secret, Sep 1988
- [23] Headquarters, Marine Corps, *Report of the Special Study Group convened by the Commandant of the Marine Corps to examine the Mission, Organization, and Capabilities of the Marine Corps Reserve*, Jun 1976
- [24] Discussions with MARRESFOR Staff Officers, Jun 1992
- [25] Reserve manning database provided by MARRESFOR, Jun 1992
- [26] Marine Corps Reserve Support Center Briefing, "Operation Desert Shield, Operation Desert Storm, undated
- [27] CMC message 242010Z August 1990, *Total Force Contingency Plan Short of Mobilization*, Unclassified
- [28] Conversations with officers in MARRESFOR G-3 (operations) section, Jun 1992
- [29] Conversations with staff officers at Reserve Affairs Division, Headquarters, Marine Corps, Feb 1992

REFERENCES (Continued)

- [30] Headquarters, Marine Corps, Reserve Affairs Division Database, "SMCR Unit Departure/Arrival for Activation with State," Mar 1991
- [31] Conversations with staff officers at Marine Corps Reserve Support Center (MCRSC), Jul 1992
- [32] Marine Corps Research Center, Research Paper 92-0015, *Marine Corps Reserve Forces in Southwest Asia*, by LtCol Mark F. Cancian, Jul 1991
- [33] Marine Corps Lessons Learned System, Lessons Learned Reports on Reserves in Desert Shield and Desert Storm, extracted from Marine Corps Research Center Desert Shield/Storm Database, Jan 1992
- [34] Conversation with Maj Fogle, MCRSC Judge Advocate, Jul 1992
- [35] Headquarters, Marine Corps, memo from SJA, "Call of Selected Reserve Units and Personnel to Active Duty," 24 Aug 1990
- [36] Conversation with Col Liston at MCRSC (assigned to the Current Operations section at HQMC during Desert Shield/Storm), Jul 1992
- [37] Conversation with Maj Wilson at MARRESFOR, Jun 1992
- [38] Marine Corps Battle Assessment Team Reserve Survey Results, extracted from Marine Corps Research Center Desert Shield/Storm Database, Feb 1992
- [39] CNA Research Memorandum 91-37, *Marine Corps Operations in Desert Shield* (U), by George Akst et al., Secret, Feb 1991
- [40] "Reserve Readiness Rapped." *Navy Times*, 11 May 92
- [41] Conversation with LtGen Boomer, Jun 1992
- [42] Conversation with MajGen Waters, Director, Reserve Affairs Division, Headquarters, Marine Corps, May 1992